



Material Safety Data Sheet Particleboard – All Types

MSDS No: 001 – 4/20/2010

SECTION 1 - PRODUCT and COMPANY INFORMATION

Product Identifier: FLOOR UNDERLAYMENT TYPES PBU AND ENSTRON® – INDUSTRIAL TYPES M0, M1, M2, M3I, AND AG.

General Use: Re-manufacturing, construction and furniture processes.

Product Description: A composite panel product manufactured from cellulosic materials bonded together exclusively with thermo-setting pMDI binder, and which contains additives. All our panels are “No added formaldehyde” and are California CARB EXEMPT. Executive order N-08-002A.

MANUFACTURER: Plummer Forest Products
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SECTION 2 - HAZARDS IDENTIFICATION

| CHEMICAL NAME | CAS # | Source | Type | Exposure Limit |
|----------------------------------|-------|-------------------|------|-----------------------|
| Inland Softwoods and Hardwoods * | None | OSHA | TWA | 5 mg/m ³ |
| Western Red Cedar | None | ACGIH Recommended | TWA | 0.5 mg/m ³ |
| Wood Dust (Total Dust) | None | OSHA | TWA | 15 mg/m ³ |

* In AFL-CIO v. OSHA 965 F. 2d 962 (11th Cir. 1992), the court overturned OSHA's 1989 Air Contaminants Rule, including the specific PELs for wood dust that OSHA had established at that time. The 1989 PELs were: TWA 5 mg/m³; STEL (15 MIN) - 10 mg/m³ (ALL SOFTWOODS AND HARDWOODS, EXCEPT WESTERN RED CEDAR); WESTERN RED CEDAR: TWA - 2.5 mg/m³.

Wood dust is now officially regulated as an organic dust under the Particulates Not Otherwise Regulated (PNOR) or Inert or Nuisance Dust categories at PELs noted under the Hazardous Ingredients section of this MSDS. However, A NUMBER OF STATES HAVE INCORPORATED PROVISIONS OF THE 1989 STANDARD IN THEIR STATE PLANS. ADDITIONALLY, OSHA HAS ANNOUNCED THAT IT MAY CITE COMPANIES UNDER THE OSH ACT GENERAL DUTY CLAUSE UNDER APPROPRIATE CIRCUMSTANCES FOR NON-COMPLIANCE WITH THE 1989 PELs.

EMERGENCY OVERVIEW:
Manual or mechanical cutting or abrasion processes performed on the product can result in generation of wood dust, which may present an explosion hazard. Wood dust may cause eye, nose and throat irritation.

POTENTIAL HEALTH HAZARDS:

WOOD DUST

ACUTE

INHALATION:

Wood Dust may cause nasal dryness, irritation and obstruction. Coughing, wheezing, sneezing, sinusitis and prolonged colds have also been reported.

EYE CONTACT: Wood dust can cause mechanical irritation.

SKIN CONTACT: Various species of wood dust may evoke allergic contact dermatitis in sensitized individuals.

INGESTION: Not applicable under normal conditions.

CHRONIC

Wood dust (and/or ligno-cellulosic fibers), depending on species, may cause respiratory sensitization and/or irritation. IARC classifies wood dust as a carcinogen to humans (Group 1). This classification is based primarily on IARC's evaluation of increased risk in the occurrence of adenocarcinomas of the nasal cavities and paranasal sinuses associated with exposure to wood dust. IARC did not find sufficient evidence to associate cancers of the oropharynx, hypopharynx, lung, lymphatic and hematopoietic systems, stomach, colon or rectum with exposure to wood dust. Wood dust has been listed by the National Toxicology Program (NTP) as a known human carcinogen. It is not regulated by OSHA as a carcinogen.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

| MAIN COMPONENTS | CAS # | PERCENT WT. (RANGE) |
|------------------|-----------|-----------------------|
| Inland Softwoods | NA | 92% - 95% |
| Hardwoods | NA | 0.0% - 1.0% |
| pMDI | 9016-87-9 | proprietary |

SECTION 4 - FIRST AID MEASURES

INHALATION: . Remove to fresh air. Obtain medical attention if persistent irritation, severe coughing or breathing difficulty occurs. If breathing is difficult administer oxygen.

EYE CONTACT: Dusts generated from this product may cause mechanical irritation. Treat dust in eye as foreign object. Flush eyes with large amounts of water to remove dust particles. If irritation persists, get medical attention.

SKIN CONTACT: Wash wood dust from skin with soap and water and wash dust covered clothing before reuse. Wood dust of certain species can elicit allergic contact dermatitis in sensitized individuals, as well as erythema and hives. Obtain medical help if rash or irritation persists or dermatitis occurs.

INGESTION: Not applicable under normal use.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing respiratory problems, eye problems, dermatitis and other skin disorders can be aggravated by exposures to dusts.

SECTION 5 - FIRE-FIGHTING MEASURES

FLASH POINT: Not applicable

EXPLOSION HAZARDS: This product does not present an explosion hazard. Manual or mechanical cutting or abrasion processes performed on the product can result in generation of wood dust, which may present an explosion hazard.

LEL: Depending on moisture content and more importantly, particle diameter, wood dust may explode in the presence of an ignition source. An airborne concentration of 40 Grams (40,000 Milligrams) of dust per cubic meter of air is often used as the LEL for wood dust.

UEL: Not applicable

FIRE FIGHTING INSTRUCTIONS: Fire fighting procedures for a Class A fire should be followed. Use water to wet down wood dust to reduce the likelihood of ignition or dispersion of dust into the air. Remove burned, charred or wet dust to open secure area after fire is extinguished.

FIRE EXTINGUISHING MEDIA: Water, Carbon Dioxide, Foam, Dry Chemical, Halon and any Class "ABC" extinguishing media.

AUTOIGNITION TEMPERATURE

- 1) Ignition of wood takes place when wood is subject to sufficient heat and in atmospheres that have sufficient oxygen. Ignition can be of two types: piloted or unpiloted. Piloted ignition occurs in the presence of an ignition source (such as a spark or flame). Unpiloted ignition is ignition that occurs where no pilot source is available. The surface temperature of wood materials has been measured somewhere between 300 C and 400 C (572 F to 752 F) prior to piloted ignition. Unpiloted ignition depends on special circumstances that result in different ranges of ignition temperatures. At this time, it is not possible to give specific ignition data that apply to a broad range of cases. With convection heating of wood, unpiloted ignition has been reported as low as 270 C (518 F) and as high as 470 C (878 F). Source: Wood Handbook Wood as an Engineering Material, 1999, Forest Products Laboratory, U.S. Department of Agriculture, Madison, WI.

HAZARDOUS COMBUSTION PRODUCTS:

Thermal and/or thermal-oxidative decomposition can produce irritating and toxic fumes and gases, including hydrogen cyanide, carbon oxides, polynuclear aromatic hydrocarbons, aldehydes and organic acids.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

LAND OR WATER SPILL: Not applicable to panel products in purchased form.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: No special handling precautions are required for products in purchased form.

This product should not be stored where exposure to water could occur or near a source of ignition. Avoid storing in areas of high relative humidity and temperature. Store in cool, dry place away from open flame.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

| CHEMICAL NAME | CAS # | Source | Type | Exposure Limit |
|----------------------------------|-------|--------|------|-----------------------|
| Inland Softwoods and Hardwoods * | None | OSHA | TWA | 5 mg/m ³ |
| Western Red Cedar | None | ACGIH | TWA | 2.5 mg/m ³ |
| Wood Dust (Total Dust) | None | OSHA | TWA | 15 mg/m ³ |

ENGINEERING CONTROLS: Certain activities in the re-manufacturing and use of this product could possibly produce wood dust. Provide adequate general and local exhaust ventilation to keep airborne wood dust concentrations below the safe exposure limits.

RESPIRATORY PROTECTION: None needed under normal use. Wear NIOSH/MSHA approved respiratory protection when safe exposure limits are exceeded.

EYE PROTECTION: Safety glasses with side shields recommended when re-manufacturing or otherwise working with this product.

SKIN PROTECTION: Other protective equipment such as puncture resistant gloves and outer garments may be needed depending on how product is used and/or dust conditions present.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

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|--|--|
| APPEARANCE: Generally, light cream color – Raw material dependent. | VAPOR DENSITY: Not applicable |
| SPECIFIC GRAVITY: generally < 0.75 | EVAPORATION RATE: Not applicable |
| SOLUBILITY IN WATER: Insoluble | MELTING/FREEZING POINT: Not applicable |
| pH: Not applicable | ODOR: Raw Material Dependent |
| BOILING POINT: Not applicable | VAPOR PRESSURE: Not Applicable |
| VISCOSITY: Not applicable | PHYSICAL STATE: Solid |

SECTION 10 - STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions

REACTIVITY: Avoid product contact with any temperature sources that could induce thermal decomposition. Avoid product contact with oxidizing agents and strong acids.

HAZARDOUS REACTIONS: Will not occur.

HAZARDOUS DECOMPOSITION: Thermal and/or thermal-oxidative decomposition can produce irritating and toxic fumes and gases, including hydrogen cyanide, carbon oxides, polynuclear aromatic hydrocarbons, aldehydes and organic acids.

SECTION 11 - TOXICOLOGY INFORMATION

TOXICITY DATA: Currently there are no toxicological data for product in purchased form.

Toxicity Hazard Rating for wood dust is 3.3 (moderately toxic). Based on The National Library of Medicine's toxicity rating of 1 = none and 6 = supertoxic. A probable oral lethal dose of wood dust (human) would be 0.5 to 5.0 g/kg. This would be about 3/4 of a pound of wood dust for a 150 pound person.

CARCINOGENICITY: Wood dust is not considered a potential carcinogen by OSHA. IARC classifies wood dust as a carcinogen to Humans (Group 1). This classification is primarily based on IARC's evaluation of increased risk in the occurrences of adenocarcinomas of the nasal cavities and paranasal sinuses associated with exposure to hardwood dust. IARC did not find sufficient evidence to associate cancers of the oropharynx, hypopharynx, lung, lymphatic and hemotopoietic systems, stomach, colon or rectum with exposure to wood dust. Wood dust has been listed by NTP as a known human carcinogen. ACGIH indicates that wood dust is not classifiable as a human carcinogen.

SENSITIZATION TO THE PRODUCT: Some individuals can become sensitized to certain wood dusts and develop allergy-like symptoms upon repeated exposure.

SECTION 12 - ECOLOGICAL INFORMATION

ENVIRONMENTAL STABILITY: The wood portion of this product will eventually decompose if left in the environment. The remaining components of this product are relatively stable under ambient, environmental conditions.

EFFECT OF MATERIAL ON PLANTS AND ANIMALS: This product is not expected to cause harm to plants or animals in the environment.

EFFECT OF CHEMICAL ON AQUATIC LIFE: This panel product is not expected to cause harm in an aquatic environment unless a large quantity is left in a body of water.

SECTION 13 - DISPOSAL CONSIDERATIONS

This panel product is recyclable. It is, however, the user's responsibility to determine at the time of disposal if it meets any EPA RCRA applicable criteria for hazardous waste. Disposal must follow applicable federal, state, provincial and local regulations.

SECTION 14 - TRANSPORTATION INFORMATION

This product is not considered hazardous as defined by 49 CFR 172.101 by the U.S. Department of Transportation.

PROPER SHIPPING NAME: Not Regulated
HAZARD CLASS NUMBER AND DESCRIPTION: Not applicable
UN IDENTIFICATION NUMBER: Not applicable
PACKAGING GROUP: Not applicable
DOT LABEL (S) REQUIRED: Not applicable
NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (2000): Not applicable
MARINE POLLUTANT: No component of this product is listed as a marine pollutant by the DOT (49 CFR 172.101, Appendix B.)
TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOOD REGULATIONS: This product is not considered as dangerous goods, per regulations of Transport Canada.

SECTION 15 - REGULATORY INFORMATION

U.S. OSHA: Wood products are not considered hazardous under the criteria of the Federal OSHA Hazard Communication Standard, 29 CFR 1910.1200. However, wood dusts generated by sawing, sanding or machining these products may be hazardous.

ANSI A208.1-2009 Particleboard Standard: Industry consensus standard sets physical, mechanical and emission levels for industrial and flooring particleboard. Our products are manufactured to meet or exceed these ANSI Standards.

STATE OF CALIFORNIA, Air Resources Board has by executive order N-08-002A listed all our particleboard products as "CARB EXEMPT". This means we meet all of the formaldehyde emission standards of the California Code of Regulations Section 93120 for "No Added Formaldehyde" (NAF) composite wood products.

RCRA : pMDI is not a hazardous waste in purchased form nor in this product.

Sara/Cercla: This product does not contain chemicals in concentrations that should require reporting under SARA 313.

SECTION 16 - OTHER INFORMATION

pMDI

The polymeric diphenylmethane diisocyanate binder used in our panels does not liberate MDI vapor. MDI and pMDI are not classified as carcinogenic by ACGIH or IARC, they are not regulated as carcinogens by OSHA nor listed as carcinogens by NTP.

Additional information: See the National Fire Protection Association's standard 664 "Standard for the Prevention of Fires and Explosions in Wood Processing and Woodworking Facilities" (2007 Edition) for more details on wood dust explosions. Copies of this standard are available from the NFPA web site www.nfpa.org.

Plummer Forest Products. believes the information contained in this Material Safety Data Sheet is based on sources believed to be accurate, or otherwise technically correct, at the time of preparation. Plummer Forest Products makes no warranty, expressed or implied, concerning the accuracy of the information presented in this MSDS. It is the user's responsibility to determine if this information is suitable for their applications and to follow safety precautions as may be necessary. It is the responsibility of the user to comply with local, state and federal regulations concerning use of this product.

Definition of Common Terms:

| | | |
|-------|---|---|
| ACGIH | = | American Conference of Governmental Industrial Hygienists |
| CARB | = | California Air Resources Board |
| CAS# | = | Chemical Abstracts System Number |
| IARC | = | International Agency for Research on Cancer |
| MSHA | = | Mine Safety and Health Administration |
| NA | = | Not Applicable |
| NAV | = | Not Available |
| NIOSH | = | National Institute for Occupational Safety and Health |
| NTP | = | National Toxicology Program |
| OSHA | = | Occupational Health and Safety Administration |
| pMDI | = | Polymeric Diphenylmethane Diisocyanate |
| PEL | = | Permissible Exposure Limit |
| STEL | = | Short Term Exposure Limit (15 minutes) |
| TLV | = | Threshold Limit Value |
| TWA | = | Time-Weighted Average (8 hours) |